Name: _____ Date: _____

Polynomial Factoring EXAM (version 666)

1. **The quadratic formula says if $ax^2 + bx + c = 0$ then $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. Use the quadratic formula to solve the following equation.**

   $$x^2 - 6x + 27 = 0$$

   Simplify your answer(s) as much as possible.

2. **Express the product of $-3 + 4i$ and $-6 + 7i$ in standard form $(a + bi)$.**

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3. **Write function $f(x) = x^3 + 2x^2 - 13x + 10$ in factored form. I'll give you a hint: one factor is $(x - 2)$.**

4. **Polynomial p is defined below in factored form.**

$$p(x) \;=\; -(x+1)^2 \cdot (x-2)^2 \cdot (x-5)$$

Sketch a graph of polynomial $y = p(x)$.